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Economic Forum 2009**

ECONOMIC DAY

SESSION:

THE PRICE OF OIL

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Description:

Discussion on the global role of energy resources, the structure of demand and demand forecasts, and the potential for the development of alternative energy sources. Can “black gold” become a store of value? Russia’s contribution to global energy security.

Moderators: **Guy Chazan**, Journalist “The Wall Street Journal” and **Rair Simonyan**, Chairman Morgan Stanley Russia

Panelists:

- Igor Sechin, Deputy Prime Minister of the Russian Federation
- Dr. Daniel Yergin, Chairman, Cambridge Energy Research Associates
- Nobuo Tanaka, Executive Director, International Energy Agency
- Edward Morse, Managing Director & Head of Research, Louis Capital Markets
- Peter Caddy, Business Development Director, Argus Media

Discussion Participants:

- Alexey Miller, Chairman of the Management Committee, Gazprom
- Vagit Alekperov, President & CEO, Lukoil JSC
- Vladimir Bogdanov, General Director, Surgutneftegas JSC
- Sergey Bogdanchikov, President and Chairman Rosneft JSC
- Nikolay Tokarev, Chairman and President Transneft JSC
- Viktor Vekselberg, President, Renova Group of companies
- Shafagat Takhautdinov, General Director Tatneft JSC
- Tony Hayward, Group Chief Executive, BP
- David J. O’Reilly, Chairman and CEO, Chevron Corporation
- James Mulva, Chairman & CEO, ConocoPhillips
- Jeroen van der Veer, Chief Executive, Royal Dutch Shell plc
- Paolo Scaroni, CEO, Eni
- Fulvio Conti, CEO, ENEL
- Helge Lund, President and CEO StatoilHydro ASA
- Andrew Gould, Chairman & CEO, Schlumberger Limited

Global Energy Award nominees:

- Alexey Kontorovich, Academician

- Nikolai Laverov, Academician
- Brian Spalding, Professor

RUSSIAN PRESIDENT DMITRY MEDVEDEV ANNOUNCES THE WINNERS OF THE INTERNATIONAL GLOBAL ENERGY AWARD

Transcript:

R. Simonyan:

My name is Rair Simonyan. I manage Morgan Stanley in Russia and the CIS. A person near me is Guy Chazan, he is a renowned observer for the Wall Street Journal newspaper, he was working in Russia for 10 years and perfectly speaks Russian. You can see our panelists. Probably, it is almost unnecessary to introduce Igor Ivanovich Sechin. He is a Deputy Prime Minister of the Russian Federation. Dan Yergin is sitting next to him. He is a Chairman of the well-know organization: Cambridge Energy Research Associates, and he is the author of many books, just on the subject we discuss. Nobuo Tanaka is Executive Director of the International Energy Agency. Ed Morse is Managing Director & Head of Research, Louis Capital Markets, and Peter Caddy, Business Development Director, Argus Media. I shall not speak about the session's framework as it is interesting framework – you will see it yourselves and even will take part in it. I would immediately give the floor to Igor Ivanovich Sechin.

I. Sechin:

Thank you very much, dear Rair, thanks to all. First of all I would like to thank the organizers and all participants of the Forum. For me, without exaggeration, a great honour to participate in this discussion, together with recognized competence in the global oil and gas sector, who are here in this hall. Today we gather to discuss the question of how much oil is. Hardly anyone can give to this question quite reasonable and concrete response. There is a good reason for that. This year, the St. Petersburg International Economic Forum is taking place against a background of fundamental shocks in the global economy. Please, first transparency. Year 2009 will be marked with a total global GDP fall for the first time since 1944-45. The global financial crisis that begun in 2007, has had a serious impact on the global economy. We have no illusions about the fact that the crisis is over. I think today you drew attention to the facts that both, the President of the Russian Federation and other experts, including Dr. Mandell said in their speeches at the plenary session. In general, it is necessary to recognize that the crisis continues and to be aware of this. The crisis, of course,

reflects upon the global oil market and affects both producers and consumers. Now nobody can say what will be the price of oil in three months, six months or a year; what will be its evolution in the long run, to which extent the pricing will be affected by fundamental factors and to which – by operating or speculative factors. Under this environment of uncertainty, it is difficult for the consumer countries to launch consumer demand recovery arrangements – this, in turn, closely linked to the economic growth dynamics. At the same time, it is extremely difficult for the producers to schedule investments into the oil industry and the development of new fields. Energy policy in the Russian Federation and other countries cannot be built in isolation from the realities of the international financial and stock markets. As you well know, every country in the world, including countries of G20, is currently taking unprecedented efforts to overcome phenomenon of the crisis. First of all, our efforts should be aimed at stabilizing of the oil market, because its amount is nearly two trillion dollars. Naturally, way out of the crisis would not be only stretched in its dynamics, it is simply impossible without the normalization of the oil market. In this context, I would like to present some of our approaches the priorities of Russia's energy policy of improving transparency, efficiency and system stability of the world oil market. I think that the temporary price stabilization in the oil market should not be misleading. Please, transparency two. First, it is attributable to the reduction in the global demand. According to experts, it will decrease by one and a half, two and a half million barrels a day this year. Commodity stocks remain at critically high levels. Now it is about sixty to sixty-two days. At the peak of the fall of the prices it was about to seventy-two days. And it is not clear, however, when the sustained economic growth will begin in the USA. This applies also to other developed countries. Of course, it is necessary to understand how rapidly China's economy will grow. Currently, it is one of the main catalysts for growth in demand. In these circumstances, in other countries such as India – the risks of reducing oil prices remain very high. Realizing the difficult market conditions the Russian government has taken measures to maintain the oil industry, including the introduction of tax incentives. We encourage the expansion and deepening of oil refining. We might succeed in the next year or two from the earlier investment to prevent the decline in oil production. Investment activity, including the construction of new pipelines is maintained at the proper level. As you know, the first phase of the Eastern Siberia – Pacific Ocean pipeline has been completed. The implementation of BTS-2 (Baltic Pipeline System) commences; expansion of KTK (Kaspian Pipeline Consortium) occurs; operations are in progress to expand terminals at Primorks and Ust-Luga; work is in progress at other terminals, including the Black Sea. We know that in the long run, according to estimates by the International Energy Agency, a forced reduction of capital expenditure programs is expected from the international oil companies. Investment in exploration and production in the global oil and gas sector will fall by 21% in 2009. And this, of course, can not bring to any other result than a

reduction in the production capacity, i.e. the oil market supply. That, in turn, will automatically lead to an increase in the cost of oil. If capital expenditure do not recover, the forecast made by the Oil Minister of Saudi Arabia recently in Rome, – he called USD150 a barrel in two to three years – could be very realistic. In doing so, the polarity of the possible scenarios and the likely price jumps indicate systemic weaknesses of the oil market, which approaches to operate, in our view, should be thoroughly reviewed. It seems to us that equilibrium prices in the oil market, which, as we have seen, plays a major role in the global economy, should be determined primarily by economically reasonable rates, and it is – a the long-term demand and supply. As the experience of last year – you can see this on the transparency – the oil market actually works quite differently. Left are the fundamental factors, right – other factors that affect the market operations. There are geopolitical factors and the risks associated with the disbursement of funds by investors. As we expect, a price jump, which we are seeing has to do more with it. The instability of oil prices can not be explained by the laws of efficient market. Actually, it creates many problems for the world economy. Russian and international oil companies continue to face difficulties in planning efficiency and in planning the timing of capital expenditure. Consumers of oil and petroleum products do not even understand the middle-term dynamics of their costs. Politicization of the oil industry continues. I would mention just one example; you all are professional and trained people and you know that there are many such examples. This is a situation with Odessa – Brody pipeline. There is no economy in the project, but additional risks are present, of course. There is increasing disagreement on really important issues, and this is typical for the industry. These differences are also a result of politicization. In general, the oil industry regardless of its ownership, admittedly, quite strongly regulated by governments around the world. And it also increases the problem of politicization. As a result, the uncertainty of oil prices and risks associated with uncertainties that have shifted to the final consumer which of course has significant implications for the dynamics of global GDP and systematic stability of the economy. In many ways, the reasons for the uncertainty inherent in the very architecture of the global oil market. The current international commodity and money system, as demonstrated by the events of the last months of crisis, does not meet the needs of sustainable development in today's world economy – the system is outdated, it is extremely far from the ability to self-regulation and requires coordinated actions of different countries and market operators for its stabilization. Therefore, the establishment of stable, long-term and effective oil market architecture must be a priority not only for Russia, but for all the major oil market players. We can not and should not remain hostage to uncontrolled development. In this case, there are also a lot of examples, I will not list them. Based on the foregoing, we wish to determine the three principal objectives, the joint discussion of which would allow to either solve the oil industry's fundamental problems or at least will provide an impetus for their decision.

Should change the categories of product oil, traded on the stock exchange, which in our view the archaic and do not reflect the current structure of the industry. Second – the improvement of pricing mechanisms. Existing mechanisms are not objective, transparent and not even market-based, consequently, they are ineffective. Third is to mitigate the systemic oil market risks.

On the first item: Insufficient oil market is largely rooted in the specifics of the product itself, which is traded on major stock markets. Please, transparency five. Red points – are traded on the <inaudible> oil brands – Brent and WTI. All other brands are not traded. For example, heavy high-sulphur oils are produced all over the world to a growing extent, which has no liquid price references. The world's increase is mainly accounted for the proposal at this brand of oil. Another example: The East Siberian fields of Russia show a growing production of light oil grades. There is no adequate price benchmark for this grade of oil also. Subjective, non-differential system of rates is used instead of objective market-based mechanisms. Rates, the value of which is the same as for WTI are determined by local rather than global demand. I think even in Texas, probably not all gasoline, which drive vehicles, made from WTI. To solve this problem the Government of the Russian Federation will continue to support the development of new liquidity markers. An example of the Dubai stock exchange with contracts for physical delivery of Oman crude oil showed that the market has an interest in this work and the opportunity for it. All the elements necessary for participation in the implementation of this work Russia also has – as none other market participant. Please, the sixth transparency. The Russian Federation is a largest oil producer in the world. The production levels are shared with Saudi Arabia – first and second positions on the list. The level of Russian oil production is not affected directly by influence of quota system. The Russian market is also a major industrial centre, which is close to major industrial centres in Europe and Asia. This gives us a liquid source of demand for physical oil supplies, both on the domestic market and outside the country. Undoubtedly, this problem must be addressed comprehensively. The new price targets should be accompanied by the creation of new infrastructure, commercial areas and a single calculation and payment system. We have already begun to work actively in this direction. The St. Petersburg International Commodity Exchange has been opened recently. We invite all who are interested. Support from other market players is important for us. This is another occasion to thank all those who have expressed interest in participating in the International Forum in St. Petersburg.

The second point is pricing mechanisms. The purpose of the market, as we know, is to determine equilibrium price, which is formed in the competitive environment, depending on the ratio of supply and demand. The price of oil as the commodity has the economic sense, when it is supported by a large number of real, not virtual market transactions. Otherwise, the oil market is no different from the securities market. We are not against the intensive work with securities on the

stock market, but oil plays a very different, not like securities, role in the global economy and in life. Situations where the big institutions are investing in product oil as a form of conservation value and as a backup, poorly withstand economic criticism. They play a destabilizing role, with significant negative consequences for both consumers and producers of oil. Warren Buffett in his time called derivative contracts as mass destruction weapons for financial markets. This definition is justified by the role played by derivative contracts in real estate market in the financial industry in modern times. Please, transparency seven. Thin strip at the bottom right – it is physically extracted oil. A number of columns – this is forward contracts from trade. Here is a scope of the problem. We understand that to determine the exact role of speculative financial capital in the vibrations of the price of oil is difficult. But, according to many independent experts, namely the arrival of global financial market players rather than an objective increase in demand was the basis of higher oil prices during the period of 2002-2008 years. At the peak of the market volume of open derivative positions reached ten billion barrels, with annual worldwide level of production eighty-six million barrels per day. Of course, such amount of money had a significant impact on stock price of oil, the dynamics and fluctuations in its prices. The key question remains unresolved – whether the natural resources as a commodity exchange may become a part of unchecked financial portfolio held by investors, all funds, including pension funds? Restricting the participation of short-term speculative capital and its management will be in interests of all producers and consumers of oil. Only this approach can and should ensure stricter compliance of mass produced commodity with issued financial instruments and determine the rules of exchange trade. In cooperation with our colleagues, we need to overcome and resolve shortcomings of the oil stock exchange. In this case, a dialogue with our European and American partners and regulators is important and timely. It is necessary to harmonize our approaches. We all remember the forecast price of 200 dollars per barrel, which was loudly proclaimed by one large bank. The market reacted to the forecast. And we remember what the result was. It should be noted that examples of false and misleading audit assessments of rating agencies can list a long time. In this regard, we welcome any initiative, such as the creation of international organizations regulating the exchange of trade and organizations to improve the regulatory regime. Unfortunately, solutions that have been taken, can not lead to strategic change. It seems to us that the regulation of stock market trading together with transparent rules for the market and running the control system can appear only as a result of broader efforts to be made by all parties. There will be a role for both producers and consumers. A few days ago, I listened with interest the proposal of Mr. Scaroni on a global petroleum agency. He is here today, in the room – I would also like to welcome him, he is the President of the company ENI. This was a very urgent message, and we are ready to take part in the discussion of the possibilities of cooperation. We believe that the work of such agencies will

contribute primarily to enhanced transparency and competitiveness of the world oil market. Constructive dialogue can be established on the platform of the International Energy Forum. Actually, it was created for this. We are ready to contribute and welcome everybody to the international conference of oil-producing countries that we want to organize in Moscow this autumn. In addition, one of the strongest tools for guiding the market to deal with the physical volumes of oil could be a preemptive use of long-term contracts for the supply of oil. Such contracts may be entered in the stock market trades, or at least be registered on the stock exchange, together with the harmonization of the conditions and with the harmonization of our approaches. And maybe it would lead to better balance of production and consumption. Creating a unified system of long-term contracts with physical delivery will help to accommodate the growth of the real costs of extraction and transportation of oil simultaneously with the formation of such a system. While manufacturers will be able to plan investments in long-term projects. When used it would limit on the prices of speculative capital, as we talked. Such contracts, which are built on the over-the-counter trading basis traditionally over-used in the gas industry. This ensures the reliability of supply. The system of long-term contracts would have supported the establishment of a unified payment system, with control of participants. And this would in turn remove the economically unjustified intermediaries, who do not have economic viability. The mediator works with the infrastructure. The mediator provides logistics and financing – this is his market functions. But if the feature is not economically viable – the presence of a mediator should be ruled out. We are open to discuss approaches to implementing this scheme with our partners. We exchange views with all in the current mode.

The third important issue: The reduction of systemic risks on the international oil market. As for systemic market risks, it makes sense for market players to consider the implementation of mechanisms to secure oil markets against foreign exchange market instabilities. It is worth discussing a need for reforming the existing one-currency price linking system. There is no single solution in this matter, which would replace the existing system of relations tomorrow or day after. But failing any work towards this goal, the oil markets could be a hostage of one country government's decisions. Many experts have drawn attention to the potential impact of significant fiscal imbalances and high levels of debt –both private and public sector in the American economy – to the value of the dollar. The debt of the private sector to GDP in the United States exceeds 300%. This is the highest level over the past hundred years, and this is one and a half times higher than before the Great Depression. It is for the benefit of all market participants to reduce the impact of currency risk on the functioning of the global oil market and the development of multicurrency payment system. In conclusion, I would like to stress that these ideas are not short-term considerations. I hope you understand that this is not a current business approach. We have

repeatedly expressed these concerns in meetings with our partners, participating in various international events, including the sessions of OPEC. Rather, we see here the three fundamental tasks that should ensure the effective functioning of the global oil market. Please, the ninth transparency. The result of the successful solution of these tasks will be to provide consumers greater freedom to choose suppliers and to determine the cost of oil in the objective competitive environment. And for oil producers result will be to ensure the ability to plan investment cycle and the development of new fields in a predictable manner. Everybody pays price for systemic failures and instability. For our part, we are ready to work with our international colleagues responsibly, taking into account the long-term interests of all participants in the oil market, providing integrated approach in solving these problems. Thank you.

R. Simonyan:

Thank you, Mr. Sechin. Now I would like to give the floor to Dan Yergin. I kindly request to all participants of the session to follow regulations, which is five minutes. Please.

D. Yergin:

Thank you very much, it's an honour to be at this Forum and thank you to the deputy prime minister for setting the frame work for the discussion.

It's certainly a critical time for the oil industry. As the deputy prime minister said, it's very hard to plan when things change so rapidly. We've had four shocks in the past few years. Firstly, the demand shock, which carried oil prices to \$147. Those of us who were in this room last year will remember that, as the Deputy Prime Minister said, the price of oil going to go to \$200 or \$250 or \$500 a barrel. That was followed very rapidly by the recession shock and now we're in the period, as after an earthquake, of a long aftershock. What this underpins for us is the reality of cycles, which is the great challenge for this industry, i.e. how do you plan in that kind of cycle? It is a challenge for the industry and also a challenge for the countries that depend on the revenues. Where are we today? We have a sense of it, from what the deputy prime minister said. Fundamentals are a point of continuing weakness. World oil demand is back to pre-2005 levels; spare capacity is back to where it was in 1988 and storage levels are reaching the levels of 1998. So, what we're seeing in terms of the recovery of oil prices is not based upon the fundamentals of supply and demand, but rather, and this is what we have just heard, on financial fundamentals. Firstly, pent up demand for demand. Secondly, oil is a financial instrument, an asset allocation. The weakness of the dollar and expectations of two things: of economic recovery later this year and of inflation. The question is, do the fundamentals catch up with the price? Does economic recovery catch up with the price? Or does further weakness of the dollar push up the price?

On the supply side, as a result of this shock, we see that half of the supply that a year ago one might have anticipated coming between now and 2014, is either delayed, postponed or cancelled. Decision making for the future will be shaped by three factors. One is obvious: the price. A second, less obvious to the public and to governments around the world, but very obvious to the industry, is what happens to the cost. And the third thing, of course, is the fiscal regime. Fiscal regimes are also a form of risk and can have a decisive impact on the timing and scale of development. I think that if we bring a global perspective into this room we can see that global governments around the world are reviewing and modifying their fiscal regimes in order to assure adequate investment in tomorrow's oil fields. That means the right incentives for new field development as well as for established and mature fields. I think that what we see around the world is a tendency to underestimate the importance of incentives for existing fields, for brown fields. We recently did an analysis of 7000 fields around the world and our conclusion is that in these mature fields, improved oil recovery could add 106 billion barrels - more than the estimated reserves in the arctic. The digital oil field could double that number. But we face challenges both of technical implementation and of whether the fiscal regimes add adequate incentives. If not, these barrels will not be produced. I think there's a continuing tendency around the world to underestimate the degree of innovation around the world that's required for existing fields. So, given the long- term nature of the industry, today's fiscal regimes will have a major impact on the supplies that will be available five or ten years from now. Moreover fiscal regimes need to be adjusted to changing circumstances.

That's on the supply side. Very quickly, on the demand side, I think the general expectation is that the emerging market equation that we've seen since 2004 will govern what happens to demand when we come out of the crisis. Indeed, when we come out of the economic crisis, one expects a surge of demand. But I think the question out there is how demand will be changed by new government policies and by this global emphasis on efficiency - I think we'll hear from Mr Tanaka about that, particularly about shifts in Chinese energy policy, by climate change polices and emphasis on innovation.

In conclusion, the narrative of this economic crisis has not yet been written. The St. Petersburg Economic Forum is, in a sense, helping us to write it. However we can see that in energy, as in other markets, it is important at this time to remember the importance of open markets, in terms of flexibility, innovation, adaptation and in terms of the security they provide. That's what history tells us; that's what present circumstances tell us; and that's what the future will tell us. In terms of supply, we have to think about it in the context of what happens to price, cost and certainly what happens to fiscal regimes. In summary, all this means that today's world oil industry is going to be operating in a more competitive environment. Indeed, the role of oil and transportation is going to

face competitive challenges that it hasn't seen since the beginning of the 20th century. This puts particular emphasis on the importance of it being efficient, flexible and resilient to the new cycles, shocks and supplies that lie ahead, in order to meet the needs of companies in the industry and of the publics, governments and countries that depend upon it. Thank you.

R. Simonyan:

... he had prepared a report for a half hour, but was able to reduce it to five minutes. Thanks to him for this particular job. Mr. Tanaka, please...

N. Tanaka:

Thank you very much. I really appreciate that I've been invited here. This is my first appearance in this forum. And I thank Vice Premier Sechin for inviting me. I don't want to add much to what Daniel Yergin said. In fact the IEA is providing the data to make market to function better. That is our role. And the point is how to make the market work better, with more transparency and more data and better analysis. Because it is very difficult to just simply manage the prices - we failed to manage prices in many places. That's what OPEC is also experiencing. We think that we cannot, as Deputy Prime Minister Sechin said, we cannot forecast the price so easily: tomorrow, three months from now, six months. This is very difficult. And I think and predict that the prices are getting higher and higher in the long term, due to the supply-demand situation. The supply is certainly more limited, getting more limited, because of depression as well as declining issues.

I always use the "driving a car" analogy. When you drive a car in a highway, if you see just in front of you, you cannot steer the car steadily. If you see in a little longer distance, you can steer the car much more steadily. And that's the way to make the market function better. So in the longer term we will see this challenge of prices getting higher, so there is a good reason to invest now.

Another interesting thing is that when we see this demand situation, actually, you have a lot of good expectations for the recovery of economy. That is a good thing. On the other hand real demand for oil is not coming back, yet. So the fundamentals are not really verifying a price hike. So we are concerned that if the economy is not really recovering, but the prices are just moving up, maybe that has a negative impact on the recovery of the global economy.

But also it is true, as Dan said, maybe it is coming from the more structural changes. The structural changes are coming because of the very high prices last year. And certainly there is a big indication of structural changes because we saw two major auto companies collapse. Is the structural change? I think it's a huge structural change. So even when the economic recovery happens, the demand may not come back as such. We will see. We have to verify this very carefully. That is one of our major tasks in the IEA. Into the long-term thinking we have to input

another issue, climate change.

Climate change is a certainly challenge for everybody. And we are making a big calculation about CO2 emissions reduction and efforts we need to do to reduce them by 50% by 2050. We need investment. Investment, especially, into energy efficiency, renewables, nuclear energy and so on and so forth. But even with all of these investment efforts, we still need to be in the fossil fuel economy. Even with the very stringent reduction of CO2, primary energy demand still depends on about 67 percent of fossil fuels by 2030. So investment is necessary. So that is the lesson we learnt last year. Without investing we will have a very big supply crunch. And everybody suffers: producing country, consumer countries, the same. So if you invest, the oil industry has a future, but if you don't invest, the future is not ours.

Another point is that the dialogue between the consumer and producer countries is always very important, because that's the lesson we learnt since our establishment. And we cannot enhance ones security by risking somebody else's. So we have to work together. And make the one market function better and that is the mutual interest. I fully understand that price security is the other side of the same point as demand security. We have to work together, and so for that, we are happy to be invited here in Russia as well as having the good dialogue with OPEC. That is our basic mission. Thank you very much.

R. Simonyan:

Thank you, Mr. Tanaka. The next person to take the floor is Ed Morse. As you could notice, one transparance was made using a data on the role of speculative material that was just prepared by his company.

E. Morse:

Thank you very much Rair. Thank you very much Minister. It is a privilege to be here with this entire panel and I think it is a particular privilege to hear your individual statement because what we have heard this morning was an effort to provide an architectural framework for the oil market, and that comes from a senior official of this government. It is useful for two reasons; firstly, major stakeholders do not consider the system and its requirements politically in the petroleum sector. Secondly, Russia, which has been a passive bystander of the pricing system, has now demonstrated that it wants to be an active player in forming the system. It is the largest stakeholder and has the largest carbon producing economy in the world.

I would like to make five observations about what we have talked about and about the market. I

will try to do this in quick order, without repeating too much of what has already been said. The first is about prices; what we have learned over the past few years is that prices are in many respects determined far more by expectations than they are by fundamentals. We have what I like to call 'Houdini-like' prices. We have prices that have escalated by 30 percent over the last month, while fundamentals have, if anything, deteriorated. They are based on a series of expectations that Daniel Yergin talked about; about a future market, future supplies, future inflation, and future demand; none of which may in fact justify the prices and the pricing momentum that we have seen in the last few trading days. This supplements the report that the Minister referred to by one of the largest investment banks. Open interest in Nymex alone and WTI contracts increased by a 135 thousand lots, 135 million barrels, a billion barrels of new inflows over the past few trading days. This is what I like to call an "expeculative" market; it is not one based on fundamentals.

My second point is that fundamentals are weak, maybe even weaker than is currently being taken into account by the IEA, the EIA or the OPEC secretariat. The past week's Department of Energy data is particularly instructive in this regard. Year on year demand in the US is down 2.2 million barrels a day; that is in the US alone. It doesn't include Europe, which along with Japan adds another million a day. It is going to take an incredible recovery for the rest of the year to get year on year demand down to the 2 million barrel-a-day level that the major forecasting agencies seem to indicate. We are at 62 or 63 days of forward demand cover. OPEC is trying to whittle that demand down to 55 days of demand cover; at current rates that will take a very long time to do. As it does so inventory comes into the market when prices go up and we will have further pressure downward on prices.

The third point I would like to look at, which Dan Yergin mentioned, is the rise again of surplus capacities to produce oil. This is mostly in the Middle East; mostly in Saudi Arabia. We have market expectations that anticipate that this year's and next year's and the year after's market will continue to see a resumption of oil prices; a relentless increase in oil prices. The one lesson about surplus capacities in the past that we know is that they come into the market as prices go up and they help markets to have a price band to cap off where prices are going. Not only do these surplus capacities exist, but they exist in the hands of some countries, including the Kingdom of Saudi Arabia that has indicated that they want to use those surplus capacities as part of their responsibilities to the global economy. The Saudi government has said that 75 dollars is the right price, and above that is too high a price. I wonder why people, in doing their pricing projections, don't take into account the fact that a government with 4.5 million barrels-a-day of spare capacity has indicated that it doesn't think that prices ought to go higher than that.

The fourth set of observations that I would like to make briefly are on supply. We know and we

have talked, the Minister has talked, Daniel Yergin has talked, and the IEA has talked about declining capital expenditures in the upstream as a result of lower cash flow and as a result of tighter credit standards. However, the one thing that most analyses have not taken into account is what the normal business reaction is to a declining cost structure. We see the costs of finding and producing petroleum and natural gas falling at record rates. The last month of data that we have available is for the month of April and that registered a 5.8 percent decline in the cost of finding and developing oil. All things included, on average that is the largest monthly drop in costs since records began to be kept on this. Yes, we have already seen some companies like EXXON last week indicating that it is now moving ahead in oil sands in Canada. Having seen, as far as I can interpret, that the decision: a fall in the cost of tar sands all in development, from 90 dollars a barrel to less than 60 dollars a barrel. Now we have the new Sun Corp Petro Canada indicating that costs may be even lower than that. Therefore we can say that at least there are some indications from some companies have seen costs going down enough to resume capital expenditure programmes that have been on hold and I suspect that we will be seeing more of that. Even in a significantly lower price environment we will be seeing higher CAPEX moving forward in the years ahead as we heard from an executive of TNK-BP in this city a couple of days ago.

Finally, I would like to reiterate what Daniel Yergin and Tanaka said about demand. We know very little about demand. We know only one important thing about demand: in response to every single price spike that the world has undergone the new demand path afterwards has been significantly lower. We know that the million barrels a day of base load demand coming from the US, the Middle East and China in the 5 years before last year will not be sustained under any scenario. Going forward the US has joined the rest of the OECD as a lower product demand growth country. The Middle East's demand growth was led not by transport fuels, but by the power sector. Double-digit growth of the power sector is a thing of the past, not of the future for the Middle East. Chinese demand is likely to be significantly lower for all kinds of reasons. In conclusion, I would like to say that we tend to forget that oil and gas are cyclical.

P. Caddy:

Good Afternoon, Ladies and Gentlemen. Currently Russian crude oil is sold into the Western markets of Europe and to a lesser extent, the United States. These markets are currently saturated with oil. Demand in the West as we have heard is likely to stagnate or fall due to conservation and stagnation and substitution policies. Conservation is obviously an important element right now in the way that demand is looking. Conservation comes about as a result of, unfortunately, the economic recession, but conservation is also a result of government policy. Government policy in

Europe is to encourage high taxation on oil products, and that is obviously designed to suppress demand. We are also seeing conservation measures about to be introduced into the United States, as the government and the new administration want to impose mandates on fuel efficiency. Consequently motor fuel demand growth is likely to be fairly low in both Europe and the United States. Substitution is also encouraged by the governments, in particular on motor fuels through the development of biofuels. Therefore any growth in demand in oil products is likely to occur in the East. In Asia there is a considerable amount of pent up demand. There are millions of people who want to experience the benefits of oil products and they will have the wealth to pay for the oil and it is to the East that we have to look for the development of growth in oil demand. I think the focus of the global economy is quite clearly moving eastwards and that has been recognised by Russia. Russia is now looking towards incremental demand growth for oil in the Eastern markets, in particular China. We have heard about the development of the East Siberian Pacific Ocean Pipeline and also about the development of new ports on the Pacific Ocean, such as Kozmino. I think that this development is going to be very important. It is going to be important not just for Russia, because Russia will be able to sell its crude oil into those markets, but it will also be important for the Asian consumers who will be desperate for oil as Asia is oil short. I think the true value of Russian oil will therefore be found in the Eastern market rather than in the Western market as we go forward in time. It is towards those Eastern markets that we should look to see new benchmarks emerging.

By the end of next year when oil exports are coming out of the port of Kozmino we should be in a situation of seeing the true value of Russian oil, particularly if Russian oil companies start to sell oil on spot sales at spot prices. Russian oil will be very valuable in the East. It is of good quality, but more importantly the Russian ports in the Pacific are very very close to the consuming centres in Japan, Korea and China. That proximity is very very attractive to Asian consumers as it means that there is flexibility. That flexibility and the good quality of Russian crude means that Russian crude will command a very good price and that there will always be buyers. Those buyers will help determine the price of Russian crude and the pricing that comes out of Kozmino will provide a very very important price reference. This is not just for Russia, not just for East Asia, but potentially for the Middle East as well.

Currently Middle Eastern exports are priced relative to the price indirectly of North Sea Brent. However if Russian comes out of Kozmino and is sold spot, then we can see a new benchmark developing; developing not just for Russia, not just for East Asia, but for the entire world. So I think that we are on the verge of very very exciting developments in terms of global price benchmarking.

R. Simonyan:

Thank you very much Peter.

G. Chazan:

Thanks for all your speeches, gentlemen. Mr Sechin raised certain points, certain ideas to stabilise oil markets and to make them more efficient. One of them was the idea of new benchmarks, the idea of limiting speculative capital in newer markets and reducing foreign exchange risks. I would like to open up a discussion on that. Edward, to you first of all. Do you think that such measures are actually necessary and if so, can they be implemented?

E. Morse:

On the measures that are being discussed, certainly the major regulatory agencies that govern future trading in the world, particularly in Europe and the UK and in NYMEX for the CFTC and other commodity exchanges, are looking at ways to improve market mechanisms. Their objective is market transparency and improvement. One of the issues that is most contentious has to do with over-the-counter trading. It is of note that the large institutions of major banks which have benefitted by lack of transparency want to keep OTC trading out of the regulatory framework. The debate now is moving towards greater regulation. I think we will see it, I think that it is necessary and that it creates more of an even playing field. Overdone it could of course be dangerous, but doing it right creates a better market.

G. Chazan:

Dan Yergin, the point about new benchmarks – is that something that could also help to make all markets more efficient, more stable or more transparent?

D. Yergin:

I think so. It would reflect as Peter said, where the new supplies are and where the new demand is and where the dynamism of the market is. And so, in 5 years from now we are going to have an oil market that will have a different shape to what it has today in terms of that focus.

G. Chazan:

Just a question on demand. We have seen demand falling harder than it has in a generation. I would just like to ask you how much of that demand has been permanently destroyed and how much will recover when the global economy rebounds?

P. Caddy:

I think we are facing a situation where motor fuel demand in Europe and the United States is going to stagnate. I think that governments want it to stagnate. In Asia however, the millions of people there want the benefits of oil products. They are increasingly becoming wealthier and the economies are much more self-sustainable. We are also seeing a situation where of course Asian product prices are subsidised rather than retail prices reflecting international price levels. So, consequently, I think, there will be demand growth in Asia, I think there is continuing demand growth in Asia and it is to Asia that we have to look for more substantial demand.

G. Chazan:

A question for Tanaka. The OPEC ministers at the meeting in May talked confidently about oil being at 75 dollars a barrel before the end of the year. You mentioned the danger that prices could end up going so high that they could dampen a possible economic recovery. Is that a central concern of yours?

N. Tanaka:

Yes, our concern is that we are not yet sure. Yes, probably the economy is recovering but is this recovery a very strong and continuing one? If that is the case, the price level of 60 or 70 dollars may not be a serious problem because we experienced that last year. However, if the economic recovery is not that sound, then this may create a problem. It is in our analysis, the fundamentals of real oil demand is not yet coming back, so we have to watch carefully where our economy stands. I know that 40 dollars for one barrel of oil is historically a very high level, but compared to 147 dollars it was very low. For this reason we have to see these prices in a very dynamic way – how the economy is moving and how the demand is coming, how the consumer behaviour is changing. We have to take these elements in to our calculation. Our concern is not only the demand but also the supply side, because of the lower prices we are experiencing the supply may not come and investment is not coming and that may create potentially another supply crunch in the coming years.

R. Simonyan:

Apart from the panellists whom you see here and who have been announced, the session activities involve CEO's of almost all the major Russian and international oil and energy companies. We also would like them to express their opinions on the matters discussed. More so, as Mr. Tanaka said, a primary concern of the participants is lack of investments in the production growth and

development of new fields.

G. Chazan

I have a small question <inaudible> There is deep uncertainty now about how <inaudible> uncertainty is basically <inaudible > very high oil <inaudible >. How do you invest in such an environment?

V. Vekselberg:

Thank you for a good question. I would like not only to respond to it, but also to express just two considerations on the matter. It seems to me that the presentation made by Igor Ivanovich Sechin provides us with a clear understanding of a role that the oil markets play in the global economy and, in particular, of its importance for those of its quantitative figures that we face today. Therefore, those proposals which we are forced to make in the near future, are an integral part of the decisions to be taken by countries to fight crisis. Secondly, if we look at our today's discussion relating to the matter of price, then I would certainly not dare to make specific predictions, indeed, and I think that nobody of the present persons will dare too – though we can speak about some range. However, I do not dare to say about the maximum, because it is purely speculative aspect. At the same time, I would like to say about the minimum as it concerns the matter of investments. If you look at one of the transparency, and remember that Russia today is the world's largest oil producer– and I think that this situation will still have some time, perhaps, in the long term – you will understand that the price indices in the world to a large extent will depend on how the costs will be formed for the production of tons of oil in Russia: this factor will have an impact in combination with others. The fundamental point: say, the company TNK-BP is in the medium term of 7-8 years, which will ensure the maintenance of production at a given level. But if during that period, we will not carry out major investments in developing of new fields in Eastern Siberia, Yamal and in the Arctic – after some time we will face the fact that the cost of oil production in Russia will grow repeatedly. And it can have a significant impact on the world markets. Therefore, I would I would like to emphasize specially that the measures that were proposed today, are fundamental in terms of long-term prospects. I am talking about measures aimed at establishing transparent mechanisms for implementation of oil on the world markets; in particular, it is necessary to pay attention to what role the relationship between the dollar and the ruble could play, but in fact – a shift to other currencies.

Now I shall answer to your question. Of course, we make decisions based on the combination of two factors: we have a ten-year program that allows us to build long-term prospects and specific investments that relate to the current situation in the market. As of today, we are quite optimistic:

level of capital in the company – approximately 3 billion and in line with the development plan. Today we are considering whether to undertake additional investment of 400 million. The Russian oil industry in that part which relates to the activities of the company TNK-BP, looks quite stable.

G.Chazan:

<inaudible> according to Russian production ... Mr Chair of the section who said that production in Russia is growing, but there were some who say actually production places like West Siberia may have.... What tendencies can you see?

From the audience:

I thank the esteemed meeting for the floor given to me. Today there is no fundamental reason to expect that the price could rise above USD70 and to assume that it falls below USD40. As Igor Sechin correctly observed, speculators appear at the markets again and start to boost them. The economic situation, which currently exists – reducing consumption of energy in the United States, Europe, Japan and Russia – enables us to analyze the development scenarios of our countries on the basis of the following circumstances. On the one hand, public energy savings and a shift to alternative energy sources will be promoted in the coming years. On the other hand, while the South-East Asia will show growth in consumption, developed countries will stabilize or reduce our fuel consumption. That is, in general, you can talk about the equalization of prices and the equalization of production and consumption. With regard to the production, each decade of the twentieth century opened new provinces which gave the world the opportunity to compensate for the amounts produced previously; unfortunately, most recent decades have not offered such discoveries. Only a rush of development in the Caspian region, which took place in the 90's, provides an opportunity to talk about the growth of production today. Therefore, I believe that the world, including my country needs to encourage geological exploration. We need to take action to increase the geological exploration and generating of reserves. That would enable all of us to look forward with enough confidence. Here's my opinion. Thanks.

Question from the audience:

We heard in Ed Morse's presentation about the costs falling - is this something that you are seeing evidence of? Also in particular with the oil sands, have you reached the level where investments in oil sands make more sense?

J. van der Veer:

Thank you very much. Just to say to the audience that if you take the index of CERA, where Dan Yergin is the boss, 100 was the year 2000, 110 as an index level was 2004, then at peak time it was 237 - the third quarter last year. He can probably tell where it is now, but it is probably lower so there is real cost coming out. We expect that in the short-term it will lower even further and how it develops from there I will have to listen to them. Regarding the oil sands, the reason that we delayed extensions to our projects was not so much the oil price but it was the complete overheating of the market in Canada, which to say in index terms is that if you take the 240 as the top of our industry, Canada would have been even higher than that figure. So far we are seeing prices coming down but this is a slow process. It is slightly self-defeating if other companies start to announce new projects. Thank you very much.

Question from the audience:

To continue the theme of investments - this is a question for Tony Hayward, BP - in previous downturns the major cut-backs have been quite savage and this doesn't seem to be happening this time around. There are a few adjustments here and there; however we haven't seen the sort of big cuts that we have seen in previous downturns. Why are majors like BP continuing to invest in the down cycle?

T. Hayward:

Thank you everyone for the opportunity to say a few words. I think you have to step back and look at long term demand. It is very easy in the depths of a recession to believe that demand will never return, but if you look beyond today, my view of the world is that the future has not been cancelled, it has been delayed by a year or two. When it returns there are hundreds of millions of people wishing to make the transition from a rural way of life to an urban one. In the next 30 years another three billion people are going to join the planet. All of them on energy. I think the view that demand is stagnant is unrealistic; it has clearly now peaked in the OECD world, therefore demand in the OECD world will either be flat or down - probably down. But the demand in the non-OECD world will continue to grow strongly for probably the next 20 or 30 years. I feel that those of us who have the balance sheets to invest through this cycle have taken a medium-long term view that we need to keep investing to meet the future demand. For this reason I feel that one of the most important things that the industry needs to do today is to invest for the future, because if it doesn't then we really will have \$150 or \$200 a barrel by the middle of the next decade.

Question from the audience:

A question for Mr. O'Reilly on the subject of investment: how do you see the investment climate now in the U.S.? Are you seeing more political risk emerging in the U.S. environment, especially with the new policies being announced or worked on in terms of cap and trade, energy conservations?

D.J. O'Reilly:

I do think that there is a big question posed from a policy perspective about access, and the interesting thing...

Moderator:

Excuse me, Mr O'Reilly. I would like to announce one more participant to our session - the President of the Russian Federation, Dmitry Medvedev...

D.J. O'Reilly:

Yes, there is clearly a debate going on in the United States about the future of oil and fossil fuels. The big question of access - which the public is supporting now, but which the policies have not yet supported - is up for debate this year. There will inevitably be a gap in trade. Therefore, I think we will see pressure on the demand for oil and fossil fuels in the United States in general, although this will of course be offset by growth in the rest of the world. However, the way we look at it is very simple: we think that, although they are important, the alternatives, in particular the non-renewables, will be unable to deliver adequate energy at the scale required to meet demand. Therefore, even in a slow growth environment, it is very important to continue investing, since oil and gas are depleting resources which will be needed for the future. Combine that with what is going on in the rest of the world, and I am very bullish about the long term. I am more concerned by the possibility of finding ourselves in a deep hole in the middle of the next decade if we do not continue to invest. Thank you.

R. Simonyan:

Mr. President, in your absence, we discussed the issues that you mentioned at the plenary session. These include – the question of what measures are necessary to stabilize the oil market, to make its development more sustainable, predictable, transparent, to the interests of both consumers and producers. The main concern of the members of this session is the need to develop new guidelines and rules for the international community, and what further action is and what the price will allow the oil industry to develop sustainably in the longer term. Now I would like to announce the next

event of our program. Organizers have provided us the possibility of online voting. So, the topic of this discussion is: what will be the price of oil? We all have desks. Take them in your hands. Everyone will be asked the same question. Listen to me carefully, please. What is a fair price for oil? Voting will take place in two stages. First, vote all in this audience, with the exception of the leaders of oil companies – this will allow us to see what the expectations of people are. Then we'll ask the same question the heads of energy companies to understand what price they deem necessary to ensure sustainable development. Then Guy will compare the results. Are you ready? Look, a green push button must light up. Once it turns, all in the audience, with the exception of the heads of energy companies, should click the button they have chosen. Time is on. Fifteen seconds left, fourteen, thirteen, nine, eight, seven, ... one. Now you will see the results. Are the preferences and submissions of those in the audience more or less obvious? Are you ready to have the question repeated? The leaders of energy companies will press the button now. Please, the voting is on. It is interesting, who classified themselves as the leaders of energy companies? We thought that they were only ten or twenty people. OK, Guy.

G.Chazan

It looks like we have got some subtle results in some way. The top figure in the audience was from 70 to 80 dollars, which is 25.7% of all voters. And it was 31.4% among the CEO's so, it seems to be a greater degree of certainty among the CEO's about the fair price of oil that is 70 to 80 dollars, not 80 to 90 dollars. It is unfortunate that we have not asked the leaders of those countries whose budgets balance at the level of one hundred dollars a barrel. But we will do it at the next Forum. Thanks to all. Now I wish to announce the next event. I ask all to remain seated. There will be presented the award to Global Energy now. I ask the participants of our sessions to take places where the plates with their names are. And Mr. President will present the awards.

E. Marfin:

Good day, dear colleagues! I am honored to begin a ceremony awarding the winners of the International Energy Prize Global Energy 2009. My name is eugeny Marfin. I represent the Research Center for Energy, Kazan Scientific Center, Russian Academy of Sciences. Our team received a grant from the Fund Global Energy for the development of scientific bases for the use of nanotechnology for the extraction of oil. The work that we do correlates with the works of Academician Alexei Emilievich Kontorovich. His research in the field of scientific justification for the oil and gas fields in Siberia have identified a strategy for the development of the country's economy for many years. We congratulate Academician Kontorovich as a winner of the

International Energy Award Global Energy. Please, look at the screens.

A. Krotov:

Good day, my name is Alexei Krotov. I represent the staff of Physics and Power Engineering Institute from Obninsk. We develop an autonomous nuclear power plants for offshore platforms on the basis of unique nuclear and space technologies. This project was made possible through the support of Global Energy, as well as the works of Academician Laverov. He developed a theoretical framework and discovered the largest uranium fields in the the Soviet Union and Russia, as well as a secure technology for their development. On behalf of the entire scientific world I congratulate Nikolay Petrovich Laverov with the Global Energy 2009 Award. Please look at the screens.

A. Gromov:

Good day, dear colleagues. My name is Alexander Gromov, I present the Tomsk Polytechnic University – a higher education institution that is famous for several reasons. First, of course, because three of our university professors have received the Global Energy Award. Those are Academicians Mesiats, Nakoryakov, and Alexei Emilievich Kontorovich this year. Second, our university – the only one in Russia, with the department of hydrogen energy. Thanks to a grant fund Global Energy, we have developed a unique generators of cold molecular hydrogen based on metal nano-powder and water. In our work we used the models proposed by Professor Spalding, the author of the scientific discipline of computational hydrodynamics. The works of Professor Spalding has been a computation basis of all modern power plants. We heartily congratulate Professor Spalding with the award. Look at the screens, please.

D. Medvedev:

Dear friends and colleagues, first of all I would like to say that I will be taking the results of your vote on the fair price of oil to my partners at the G20. I mean that all the important decisions have already been taken and that we now need to strive to reach the parameters that have been set. I hope you will support me in this respect. I would like to welcome you all and to warmly congratulate the new winners of the Global Energy International Prize. Every year, it highlights the most outstanding achievements in the field of energy and practical science. It is awarded to scientists and experts from various countries. And it is good that our compatriots are among the prize winners along with their international colleagues. Energy is the determining factor for the

stable development of our civilisation and for progress on our planet. Perhaps there is no other sector where we find scientific, geopolitical, economic, and other interests so deeply intertwined, in which so many different countries are involved, and in which so many different peoples are represented. We are certainly aware of this now, at a time when the whole world is affected by the global financial and economic crisis. On the other hand, there is the increasing realization that only a joint partnership, only our concerted efforts can solve energy problems that are becoming more acute. I talk about these issues quite often, not only in direct exchanges, but also when formulating the policies of the Russian Federation. I think that today we are aware of an absolute truism: only with concerted efforts can we hope to resolve our various difficulties and find an effective way to solve global energy problems. Hence the extraordinary interest in the work done by scientists in the energy sector, because what they are doing increases the prospects for developing new fields and technologies that can expedite the extraction of energy resources. The creation of the most advanced energy technologies, including those aimed at improving energy efficiency, resolving the fundamental issues of energy supply for humankind in the new century, ensuring environmental security, and facilitating the search for alternative energy sources – all of this depends on them. Without exaggeration we can say that the energy future of our planet is in the hands of the scientists and Russia will continue to support this kind of research, invest in this work and assist the various institutions in which it is conducted. The Global Energy International Prize is an example of this. Today it is a one of a kind award that is recognized world-wide. Just now our young colleagues talked about who received the award, how they won it, and what they received it for. I am sure that the number of people nominated for this award will increase every year. Besides the Global Energy Prize we have implemented a number of special projects, including the Global Energy Youth Programme, which our colleagues also talked about. The project already involves 100 young scientists who have received 15 million rubles as fellowship from the Global Energy Fund. Another initiative, the Global Energy Children's Programme, helps prepare future energy sector personnel.

Dear friends, today the award was given to researchers who enjoy worldwide recognition. You have just heard about them: Alexei Kontorovich, Nikolay Laverov and Professor Brian Spalding from the UK are known in the energy sector, in business community and to major companies who are engaged in energy projects. I hope that after this award their names will be known in even wider circles, because they are responsible for genuinely outstanding scientific achievements which will define the way the energy sector functions for decades to come. Once again, I would like to congratulate the winners. I wish them success, good luck and good health. And of course I want to thank those who administer the Prize for the work they have carried out during the year. Thank you.

A. Kontorovich:

Dear Dmitry Anatolievich, dear Members of the Supervisory Board for the Global Energy Awards, dear Members of the International Award Committee, and colleagues. First of all, I must express my heartfelt gratitude for a great honour given to the two outstanding scientists, Professor Brian Spalding, Academician Laverov, and me of winning the Global Energy Award for 2009. I understand that the awarding of this award to a Russian scholar, oil geologist is, in essence, recognition of the enormous achievements of Russian science, geologic exploration industry, oil and gas producers of our country, who discovered and developed gigantic oil and gas provinces in the northern part of Eurasia and the western part of Russian shelf of the Arctic Ocean during the second half of XX Century. Due to the global achievements of science, geologic exploration, oil and gas industry, Russia has been on the top of the global list of gas producers and first and second on the list of oil producers for many years. Russia plays an important role in ensuring sustainable operation of global oil and gas markets in the world today. I am convinced that Russia can maintain these positions for the entire XXI Century. As for me, I am actively involved in the development of theoretical aspects of geology of oil and gas, which formed the basis for the implementation of global forecasting of oil and gas resources, and estimates for the territory of Russia; in the development of new methods of forecasting, prospecting and exploration for oil and gas exploration and the scientific rationale for opening of the West Siberian and East Siberian oil and gas provinces; in the formulation and implementation of their development programs. In recent years, these theoretical and applied results have led to the identification of new major oil and gas areas, such as Vankor-Suzun, Urupchen-Takhoma, Angara-Lena. It also led to the formation of the raw material base for the development of major petrochemical clusters and clusters of world-class helium industry in Eastern Siberia in the next few years. All of these results would not have been possible if I had not worked in two prominent research teams at the Institute of Petroleum Geology and Geophysics, Siberian Branch of the Academy of Sciences and at the SNII-GIMS (Siberian Research Institute of Geology Geophysics and Mineral Resources) of the USSR Geology Ministry for the past half-century. If it were not for my strong communication and business contacts with the exploration, oil and gas organizations in Siberia. If I had no support and assistance of my teachers, friends, co-workers for geologic surveys and, of course, my dear family. I would like to say about one more really global problem. In today's difficult economic and financial crisis, we must clearly realize that there must be a new and more equitable energy order for sustainable development in the world. Dmitry Anatolievich, you have raised the issue absolutely correct and urgently in several of your speeches. Today 12% of the world's population consume 50% of the total energy and 74% of the population in developing countries consume only 27%. This historical,

but certainly an unjust order should be reconsidered. Otherwise, it will create new crises, new antagonisms. Russian scientists along with you, Dmitry Anatolievich, and with our government are willing to participate in the search and the establishment of this new order.

It is a great honour to be a winner of the Global Energy Award. Once again: I am infinitely grateful to you for becoming one of the winners of this prize. Thank you very much.

N. Laverov:

Dear Dmitry Anatolievich, Founders and Members of the International Committee and Supervisory Board for the Global Energy Award, colleagues and dear guests! Please accept my heartfelt gratitude for the appreciation of my work – the Global Energy Award. I am honored to be the winner, along with nineteen other major scientists from eight countries in the world, whose work is greatly appreciated by the global scientific community. I would say that this is a remarkable, inspiring event in my life and the lives of my family, as well as in the lives of a large team of scientists and specialists who deal with nuclear power. Team, where I have been working for many years and where I am working now. It is well known that the problem of sources of natural uranium was one of the most important since the early days of the nuclear project. Small deposits with reserves of several tons, which were known at that time, could not satisfy the demand for uranium. To meet the demand, our country launched the unprecedented geologic exploration research activities of a large scale. They were focused on the discovery of large deposits of not only known but also new, still unknown uranium. As a result, such fields, mining regions and provinces were discovered. It should be noted that the extraction of uranium and its explored reserves have already exceeded half of the world level by early 90's. At this point, I must say great thanks to my teachers, many of whom have died unfortunately, and to emphasize that I started my activities in early years, i.e. 1947, as a student. And since then I have continued to work. I can testify that such a rapid solution of uranium-resource problem in our country, which has no precedent in international practice, has been made possible through a deep interaction between scientists engaged in theoretical research, professional engineering organizations, major companies operating on a single program and tasks given by state. A unique technological progress in the development of new fields should be noted specially. Underground uranium bleaching processes invented in our country have improved the labour productivity of miners several times. When those processes have been integrated, direct contacts between a man and uranium ore which was extracted from the earth interior were eliminated for the first time in the world and the entire natural uranium production process was improved fundamentally. Unfortunately, both the Ural and Chernobyl catastrophes and a heavy incident at the Three Mile Plant in USA have changed the

attitude towards the pace of development of nuclear power in many countries around the world. This does not include France, Japan, Korea and China.

In recent years, an increasing number of countries have been actively involved in the construction of new nuclear power plants. Rapid development of nuclear energy is becoming a priority for energy security in the world.

The leading role in addressing this problem rightfully belongs to our country today as well. Renaissance of nuclear energy would require the simultaneous solution of three interrelated objectives. The first is again linked to the lack of uranium resource base. However, the solution to this problem lies not only in search of new fields today. In our view, it can largely be solved by the balanced construction of reactors for thermal and fast neutrons. Their judicious combination will greatly reduce the need for expensive natural uranium and will reduce the amount of radioactive waste. Creating of a new, more efficient nuclear industry relates to the decision of rehabilitation of the nuclear-ecological task. A radical enhancement of activities under the state program, the removal of radioactive contamination and waste management is a major priority for the entire world now. Third task arisen in connection with the development of nuclear power in the world, including in third world countries: non-proliferation of weapons material and sensitive nuclear technology. It is about enriching uranium and reprocessing of irradiated nuclear fuel. Today, these tasks are on the path of development of enriched uranium leasing, return of spent fuel in the country of manufacture for storage and processing, and even nuclear energy leasing development. These important initiatives have been displayed by the political leadership of our country. They are strongly supported by the IAEA, International Atomic Energy Agency and the international scientific community. The successful solution of these complex interrelated tasks of creating a new nuclear energy industry will require significant strengthening of scientific and technical work in our country, increase of the scientific and technical cooperation with CIS countries and the major nuclear countries, including the United States of America.

Dear Dmitry Anatolievich, to conclude my remarks, I want to acknowledge full agreement with your assessment of the modernization and technological development of domestic economy, given in your statement on May 15 this year at a meeting in the Gorki. And I think that would be appropriate in this situation to say that within our power, we are ready to continue active participation in solving these complex and long-standing issues. Once again, thank you very much for high appreciation of our work and congratulations with the award. We wish you good health and successful work.

B. Spalding:

Mr. President, I thank you. However, ladies and gentlemen, I must confess: whatever small merits cause me to stand here among my distinguished fellow laureates, it is strokes of great good fortune that really gave them scope. Firstly, my parents sent me to a school which imparted a love of knowledge but no great substance. Therefore, when I left, there was plenty of space in my head for new ideas. Secondly, because my scientific research started before digital computers ruled the world, I made real experiments and did pencil and paper arithmetic. This meant that when computers arrived, I could tell them what to do, not as happens nowadays, be told by them, as happens nowadays. Thirdly, in Britain, I received only modest funding, so I had to think harder to find simpler solutions: necessity may be the mother of invention, but its father is certainly lack of money. Fourthly, my PhD research led me to the work of Russian scientists - first, to Kruzhilin, Zeldovich and Semyonov, who are mentioned in my thesis, and later, I made personal contact with other Russian scientists, which became steadily closer and more productive. I am therefore delighted to acknowledge that the International Global Enterprise is a Russian initiative, funded by Russian industry. To receive its award from the hand of Russia's president is an honour, undreamt of 60 years ago.

The greatest of my strokes of good fortune was this: what my students and I were discovering proved to be useful. This has made our subject, Computational Flow Dynamics, or CFD for short, the modern equivalent of the Oracles of the ancients. For, in the field of energy, it answers questions beginning with the words, "what will happen if..." If what? I give examples: First, suppose that, after you, Mr. President, and your bodyguards have left, terrorists burst into our hall. Outside, our rescuers await with stupefying gas to pour through the ventilators. But how much through this? How much through that? The CFD model of the airflow in this room, which they have constructed in advance, will enable them to predict where the gas will go. And so we shall make the right decisions and we are saved by them and by Computational Flow Dynamics. Next example: Let's suppose we live on an island, far from Gazprom's pipelines, but fortunately it has strong sea breezes. These breezes can provide the energy that we need, but wind turbines are expensive. CFD answers questions regarding how much power we will gain if we place them here or there and how much will we lose if we place them too close together.

A third example: Power stations have huge cooling towers for cooling the water which condenses the steam. The bigger the better, but they're costly to build. Designers therefore ask, "what if we build them smaller to save money? Or place them farther apart or pump the water faster?" CFD answers, and then the best economic decisions can be made.

A final example: Accidents happen. So we should take precautions. Suppose a gas-carrying

pipeline breaks within a city. The authorities must evacuate the affected areas - but which? This depends on the strength and direction of the wind, the height and density of the buildings, and the location and release rate of the gasses. CFD can simulate these effects so that authorities can quickly focus on the endangered sectors, but, only if they have computerised their city layouts in advance. Like our boy scouts and war pioneers, they should be prepared. Are the major cities of Russia already computerised? If not, I should be happy to assist and therefore express by deeds what I can now express only by words. Namely my sincere thanks to you, Mr. President; to Russia and its scientists; to my students and co-workers; to my family, and not least, to my lucky stars. Thank you.

D. Medvedev:

Dear friends, ladies and gentlemen, I would like to again congratulate our winners, to thank them for the contribution they have made to the development of energy and of science. At the same time, by returning to what was just said and to certain reflections made during the plenary session, I would like to once again focus the attention of all present on the fact that the current crisis is likely to result in a change of leaders: leaders of industry, leaders of production, leaders in terms of economic performance. None of the representatives of the world's major energy companies here today is guaranteed an eternal place in the sun. We all have to prove our competitiveness in these difficult circumstances, when the economy is influenced by a variety of conflicting factors. I think this is probably no bad thing in general terms. Perhaps the largest energy companies will also come to the same conclusion about events currently taking place in the world. We all want energy prices, including oil prices, to be genuinely fair. Achieving such fair prices is a somewhat more complex process than the vote we just took. Nevertheless, I hope that we'll soon achieve a certain pricing equilibrium. This would strengthen the overall economic situation and help to stabilise national economies and the global economy. In any case, we must draw all the necessary conclusions from what is happening and come out of this very complex endurance test stronger, more resilient and more unified. We should also set an energy regulation system that will govern energy sector trade in the 21st century. This is our joint task. I would like to wish all of us every success with it. Let me once again congratulate our winners and wish them health and creative longevity. We are very pleased to congratulate you on this auspicious day.